

Date: Friday, 9/29/2006 10:44:04 AM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : CROSSTUBE EXTRUSION (OH-58)
Job Number : 28799	
Estimate Number : 10029	
P.O. Number : N/A	Part Number : D6007106
This Issue : 9/29/2006 S.O. No. : N/A	Drawing Number : D6007 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : RMA	Drawing Revision : A
Previous Run : N/A	Material : N/A
Written By : <u> </u>	Due Date : 12/22/2006 Qty: 22 Um: Each
Checked & Approved By : <u> </u>	
Comment : Est Rev:B 00.12.06 Added: Issue P/O EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0

PG

PURCHASING

**Comment:** PURCHASING

Issue P/O

2339

a) Extrude as per Dwg D6007

b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube

c) Minimum ultimate tensile strength = 77 ksi

d) Minimum tensile yield strength = 66 ksi

e) Material certification required

2.0

D6007106P

Crosstube



Comment: Qty.: 1.0000 Each(s)/Unit Total : 20.0000 Each(s)
 Crosstube

3.0

PACKAGING 1

PACKAGING RESOURCE #1

**Comment:** PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

4.0

QC6

DIMENSIONAL CHECK

**Comment:** DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6007

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: HP Date: 5/13/28
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 9/29/2006 10:44:05 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: CROSSTUBE EXTRUSION (OH-58)

Job Number: 28799

Part Number: D6007106

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

MB 02/03/22 24

7.0

QC21

FINAL INSPECTION/W/O RELEASE



(24)

Comment: FINAL INSPECTION/W/O RELEASE

02/03/28

Job Completion



9 07/03/28

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

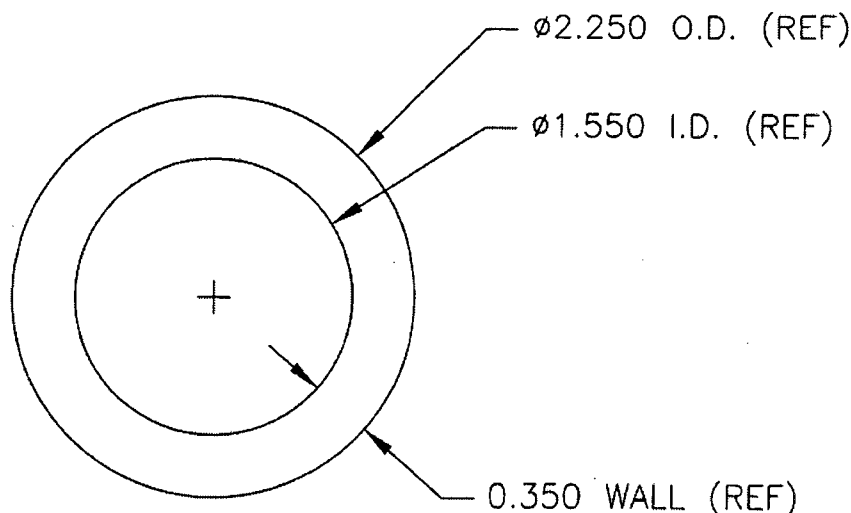
NOTE: Date & initial all entries



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D6007	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24 *[Signature]*



NOTES

- 1) D6007-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 106" LONG TUBE: D6007-106

- 2) MATERIAL: 2.250 OD x 0.350 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/09) OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi

- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (± 0.012 INCLUDING OVALITY)
WALL: ± 0.015 MEAN (± 0.035 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH

- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

NO. 28799
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

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delivery note

31177

page: 4
date: 16.02.2007
customer 40980

item	quantity	unit	net kgs
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006	10,000	PC	
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AWU article: 17955 / Tariff no. 76082081

Customer article: D6006-129 3.250 X 0.515 X 129

product: TUBES / seamless extruded / EN AW-7075 / round

condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	3,250 INCH Tol.	+0,016	-0,016
inner diameter:	2,220 INCH		
wall thickness:	0,515 INCH Tol.	+0,052	-0,052
fixed length	129,000 INCH Tol.	+0,188	

test report acc. to EN 10204/3.1 / RM 531 / Rp0,2: 455

straightness 0,01 INCH / 1 FEET / RMS outer 25

tol. on quantity +15 % -15 %

3.250" OD 0.515" Wall, 129" lengths

Part Number D6006-129 crosstube

Surface Finish max. RMS 25

Tolerances per ASTM B210 / drawing D6006

Tubes protected with corrosion protective oil

Tubes line marked

Packing: seaworthy wooden cases

number of packages: 1

number of pieces: 10

item	quantity	unit	net kgs
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007	24,000	PC	
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AWU article: 21693 / Tariff no. 76082081

Customer article: D6007-106 2.250 X 0.350 X 106

product: TUBES / seamless extruded / EN AW-7075 / round

condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	2,250 INCH Tol.	+0,012	-0,012
tol. for mean OD		+0,006	-0,006
inner diameter:	1,550 INCH		
wall thickness:	0,350 INCH Tol.	+0,035	-0,035
fixed length	106,000 INCH Tol.	+0,125	

inspection cert. acc. to EN10204/3.1 / RM 531 / Rp0,2: 455

straightness 0,01 INCH / 1 FEET / RMS outer 25

tol. on quantity +15 % -15 %

2.250" OD 0.350" Wall, 106" lengths

Part Number D6007-106 crosstube

Surface Finish max. RMS 25

Tolerances per ASTM B210 / your drawing D6007

Tubes protected with corrosion protective oil

Tubes line marked

Packing: seaworthy wooden cases

number of packages: 1

number of pieces: 24

16/3/23



delivery note

31177

page: 5
date: 16.02.2007
customer: 40980

item	quantity	unit	net kgs
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008	8,000	PC	
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AWU article: 17956 / Tariff no. 76082081

Customer article: D6009-129 3.500 X 0.625 X 129

product: TUBES / seamless extruded / EN AW-7075 / round

condition: T 6511 / AMS-QQ-A-200/11

outer diameter:	3,500 INCH Tol.	+0,016	-0,016
inner diameter:	2,250 INCH		
wall thickness:	0,625 INCH Tol.	+0,063	-0,063
fixed length	129,000 INCH Tol.	+0,188	

test report acc. to EN 10204/3.1 / RM 531 / Rp0,2: 455

straightness 0,01 INCH / 1 FEET / RMS outer 25

tol. on quantity +15 % -15 %

3.500" OD 0.625" Wall, 129" lengths

Part Number D6009-129 crosstube

Surface Finish max. RMS 25

Tolerances per ASTM B210

Straightness 0.010" deviation /12" length

Outside surface: max. defects up to 0.005" (longitudinally)

Min. ultimate tensile strength 77 ksi

Min. yield strength 66 ksi

Tubes protected with corrosion protective oil

Tubes line marked

Packing list, Inspection certificate

Packing: seaworthy wooden cases

number of packages: 1

number of pieces: 8

Terms of payment: 30 days after date of delivery

terms of delivery: DDP (Delivered, Duty, Paid)

weight:	gross	2587,500	net	1941,000
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Packstücke

customer address:

DART AEROSPACE LTD.

1270 Aberdeen Street

CDN K6A 1K7 HAWKESBURY

ON

Kanada

Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde: Dart Aerospace Ltd.

Client:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 137/07

Cert No. / No. du certificat:

Bestellnummer: PO 00002329

Order No. / No. de commande

Auftrag: 21531/7

Our Reference/Notre Reference:

Produkt: Rohre nahtlos gepresst

Product / Produit:

Tubes seamless extruded

Spezifikation: AMS - QQ - A - 200/11E; Spezifikation Dart Aerospace D6007

Specification:

Werkstoff: 7075

Alloy/Alliage:

Zustand: T 6511

Temper/État

Abmessung: 2,250 INCH x 1,550 INCH x 0,350 INCH x 106,000 INCH

Size / Dimension

D6007-106 2,250 x 0,350 x 106

Kennzeichnung: ALUnna - Cert No. 137/07 - 7075 - T 6511 - Cast no. 80006 - AMS - QQA 200/11 - 2.250" OD X 0.350" Wall - Heat

Marking/Marquage:

No. 912/01 - Lot 21531/7-1 PO. 00002339

Lieferung

pcs.

lbs

Country of Manufacture: Germany

Delivered Material / Matériel délivré:

24

538

1. Chemische Analyse

Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
80006	0,096	0,178	1,37	0,031	2,48	0,183	5,82	0,037	0,004	0,014	0,001	0,001	0,0001

Hydrogen content: 0,10

ccm/100 g Al

Elements without indication < 0,01 %

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat No.
min. max.	77,0	66,0				
1	87,580	81,055	9,0		168	912/01 - 24 pcs.

RMS: outside 25 - max. 14 µ"

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KroosD



Certified acc. to DIN EN ISO 9001:2000, valid until 2009-03-27
Certificate No.: 001959 QM



ALUnna

08.02.2007

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

Abnahmebeauftragter

Packinglist ALUnna AG

Customer PO	PO. 00002339
ALUnna ref. no.	21531/7
Date:	02.15.07

Boxmarking:

Dart Aerospace PO. 00002339
D 5009-129 Made in Germany
Dest. Hawkesbury Ont. , Canada

We hereby declare that the wooden packing material are totally free from bark and apparently

free from live plant pests

Item no.	Box no.	OD (inch)	ID (inch)	Wall (inch)	Net Weight (lbs)	Tare lbs	Gross Weight	Pieces	lengths (ft)	Lengths (inch)	Width (inch)	height (inch)
7	1	2,250	1,550	0,350	538	133	671	24	9	124,409	15,748	18,11
					538	133	671	24		,581 m³		